

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Southwest Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Strongwell Corporation - Bristol Division
400 Commonwealth Avenue, Bristol, Virginia
Permit No. SWRO10211

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Strongwell Corporation has applied for renewal of the Title V Operating Permit for its Bristol Division facility in Bristol, Virginia. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____
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FACILITY INFORMATION

Permittee

Strongwell Corporation
P. O. Box 580
Bristol, Virginia 24203-0580

Facility

Strongwell Corporation - Bristol Division
400 Commonwealth Avenue
Bristol, Virginia 24203

County-Plant Identification Number: 51-520-00018

SOURCE DESCRIPTION

NAICS Code: 326199 – All other plastics product manufacturing.

Strongwell Corporation manufactures fiberglass reinforced plastics at their Bristol Division facility using pultrusion and molding processes.

The pultrusion process involves drawing reinforced fibers through a liquid resin mixture. The saturated fibers are then pulled through forming guides and into a heated die. The resin chemically reacts in the die creating a solid, hard finished part as the material exits. The profile produced is then cut to length. Pultrusion resins have two basic components: base resin and monomers.

The molding process involves pouring a resin/fiberglass slurry into molds and curing.

Volatile organic compounds (VOC) and hazardous air pollutant (HAP) emissions result from evaporation of monomers during both processes. Additional VOC and HAP emissions occur during spray painting of various plastic parts and bonding of metal fittings to fiberglass rods.

The facility is a Title V major source of VOC and HAP. This source is located in an attainment area for all pollutants, and is a Prevention of Significant Deterioration (PSD) minor source. The facility is currently permitted under a minor New Source Review (NSR) permit issued on April 13, 1999, as amended July 6, 1999, December 5, 2002, January 30, 2004, and November 28, 2005, and a Title V operating permit with an expiration date of April 5, 2011.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was completed on August 11, 2010. Partial compliance evaluations of the facility, including site visits, were conducted on

October 5, 2010, and March 17, 2010. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
B-1	B-1	One Eclipse 200 hp natural gas/No.2 fuel oil-fired tube boiler	8.375 MMBtu/hr heat input	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
B-2	B-2	One Cleaver Brooks 150 hp natural gas/No. 2 fuel oil-fired tube boiler, model CB-150p	6.277 MMBtu/hr heat input	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
B-3	B-3	One Williams and Davis 200 hp natural gas/No. 2 fuel oil-fired tube boiler, model 777	8.4 MMBtu/hr heat input	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
Spray Coating Equipment							
PB-1	PB-1	One 28' x 16' x 7' booth	6 lb/hr	28' x 16' x 7' booth equipped with paper filters	PB-1	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PB-2	PB-2	One PA ASCHE Airbrush Co., 16' x 24' x 9' paint spray booth	6 lb/hr	PA ASCHE Airbrush Co., 16' x 24' x 9' spray filter booth equipped with paper filters	PB-2	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Pultrusion Equipment							
PM-1 through PM-5	DC-4 and DC-3	Strongwell, 4 cavity model; 5 machines	300 lb/hr input, each	DC-3: Farr Tenkay 40L C74122-3 7, filtered dust collector; DC-4: Farr Tenkay 241S C74881-4-B, filtered dust collector	DC-4 and DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-6, PM-7, PM-8, PM-10, PM-11, PM-13, and PM-48	DC-4 and DC-3	Strongwell, 2 cavity model, 7 machines	150 lb/hr input, each, except PM-13 which is 130 lb/hr	DC-3: Farr Tenkay 40L C74122-3 7, filtered dust collector; DC-4: Farr Tenkay 241S C74881-4-B, filtered dust collector	DC-4 and DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-14 through PM-23	DC-3	Strongwell, single cavity 6 inch model, 10 machines	130 lb/hr input, each	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Pultrusion Equipment							
PM-24	DC-3	Strongwell, single cavity 30 inch model, one machine	300 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-25	DC-3	OEM, Inc. small rod machine, one machine	50 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-26	DC-3	Strongwell, single cavity, one machine	300 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-9, and PM-27	DC-4 and DC-3	PTI 3008 Pultrusion, two machines	300 lb/hr input, each	DC-3: Farr Tenkay 40L C74122-3 7, filtered dust collector; DC-4: Farr Tenkay 241S C74881-4-B, filtered dust collector	DC-4 and DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-28	DC-3	Pulstar 3008 pultrusion, one machine	300 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Pultrusion Equipment							
PM-29	DC-3	Strongwell, 3 cavity model, one machine	200 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-30, PM-31, PM-34, PM-35, PM-37, PM-39, and PM-40	DC-1	Strongwell, single cavity 14 inch model, 7 machines	150 lb/hr input, each	Arrington-Curtis No.2, filtered dust collector	DC-1	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-36	DC-1	Strongwell, 60 inch model, one machine	500 lb/hr input	Arrington-Curtis No.2, filtered dust collector	DC-1	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-43, and PM-44	DC-3	Gastrusion recip. pultrusion, 2 machines	150 lb/hr input, each	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-46	DC-8	Strongwell, single cavity model, one machine	500 lb/hr input	W.W. SYL Pactecon filtered dust collector	DC-8	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Pultrusion Equipment							
PM-50	DC-3	Strongwell, single cavity tube model, one machine	200 lb/hr input	Farr Tenkay 40L C74122-3 7, filtered dust collector	DC-3	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
PM-90	DC-8	Strongwell, single cavity model, one machine	750 lb/hr, input	W.W. SYL Pactecon filtered dust collector	DC-8	Particulate	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
Molded Grating Operation							
MG-1	No stack	Various Strongwell open molds	608.18 tons/yr, input	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
Chrome Plating Operation							
CP-1	CP-2	Rapid Electric Technologies D.C. Power, 3000 Amp, 2-12 V, 36 KW,	8 lb/hr	KCH Spectra 5/4000 composite mesh-pad system	CP-2	Hexavalent chromium	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Resin Mixing and Storage Equipment							
Mix	No stack	Strongwell resin mixing room	5 tons/hr output	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
T-1 through T-6	No stack	Resin bulk storage tanks	6,768 gallons storage capacity, each	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)
T-8	No stack	Solvent bulk storage tank	2,401 gallons storage capacity	None	-----	-----	4/13/99 (as amended 7/6/99, 12/5/02, 1/30/04 and 11/28/05)

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2009 Emission Statement is attached. Emissions are summarized in the following tables.

2009 Actual Emissions

	2009 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO₂	PM₁₀	NO_x
PB-2	1.04	0	0	0	0
B-1	0.04	0.55	0	0.05	0.65
Pultrusion Equipment	2.87	0	0	0.04	0
FAB	0	0	0	0.14	0
Mix	0	0	0	0.06	0
PM-Blend	1.32	0	0	0	0
MG-1	7.68	0	0	0	00
Total	12.95	0.55	0	0.29	0.65

2009 Facility Hazardous Air Pollutant Emissions

Pollutant	2009 Hazardous Air Pollutant Emission in Tons/Yr
Styrene	10.55

EMISSION UNIT APPLICABLE REQUIREMENTS - Fuel Burning Equipment; Natural Gas/Distillate Oil-fired Boilers: B-1, B-2, and B-3

Limitations

In the absence of any specific standard from Chapter 50 of State Regulations, boilers, B-1, B-2, and B-3, are subject to emission standards outlined in 9 VAC 5-40, Article 8, Emission Standards for Fuel Burning Equipment. Each boiler was installed prior to October 5, 1979; therefore, in accordance with 9 VAC 5-40-890 C, the boilers, B-1, B-2, and B-3, together, are considered a fuel burning installation.

The following section of the Virginia Administrative Code applies to boilers B-1, B-2, and B-3:

9 VAC 5-40-900: Standard for Particulate Matter.

According to 9 VAC 5-40-900 A.1.b, the fuel burning installation may emit no more particulate matter (PM) than can be calculated by the following formula:

$$E = 1.0906 H^{-0.2594}.$$

Where E is pounds of PM per million Btu input and H is total capacity in million Btu per hour. The resulting PM emission ratio for the fuel burning installation is then:

$$E = 1.0906(8.375 + 6.277 + 8.4)^{-0.2594},$$
$$E = 0.48 \text{ lb/MMBtu.}$$

This emission ratio is included in the permit for each fuel burning unit B-1, B-2, and B-3.

The following section of the Virginia Administrative Code applies to the fuel burning installation:

9 VAC 5-40-930: Standard for Sulfur Dioxide.

According to 9 VAC 5-40-930 A.1, the fuel burning installation may emit no more sulfur dioxide (SO₂) than can be calculated by the following formula:

$$S = 2.64K.$$

Where S is the allowable emission of SO₂ expressed in pounds per hour and K is the heat input at total capacity expressed in million Btu per hour. The resulting SO₂ emission standard for the fuel burning installation is then:

$$S = 2.64(8.375 + 6.277 + 8.4),$$
$$S = 60.86 \text{ lb/hr.}$$

This emission rate is included in the permit.

The following section of the Virginia Administrative Code applies to each boiler exhaust stack:

9 VAC 5-50-290: Standard for Visible Emissions.

According to 9 VAC 5-50-290, the provisions of 9 VAC 5 Chapter 50, Part II, Article 1, Standards of Performance for Visible Emissions and Fugitive Dust/Emissions, apply. Those provisions limit discharge into the atmosphere from any affected facility any visible emissions, which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not

more than 30% opacity. This opacity limit is included in the permit for each boiler exhaust stack, B-1, B-2, and B-3.

The approved fuels for each fuel burning unit, B-1, B-2, and B-3, is natural gas and distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 and 2 under the American Society for Testing and Materials, ASTM D396-78 "Standard Specification for Fuel Oils."

Monitoring

Compliance with applicable emission standards for the fuel burning installation will be monitored through good operation and maintenance of each fuel burning unit. Good operation and maintenance shall consist of operation and maintenance in accordance with the manufacturer's recommendations. Each operator shall be trained according to the manufacturer's recommendations and a copy of all relevant operation, maintenance, and specification documentation as provided by the manufacturer for each unit and device shall be maintained on the premises of the facility for each unit.

Periodic monitoring for each fuel burning unit, B-1, B-2, and B-3, shall consist of:

Documentation of initial and periodic operator training. This documentation shall include, at a minimum: (i) the date of training and the names of the trainer and trainees, (ii) the type of training (initial, periodic, etc.), and (iii) a copy of the training material; and

Documentation of all operational adjustments and maintenance.

The applicable emission standards in 9 VAC 5 Chapter 40 for PM and SO₂ are based on the capacity of each unit, B-1, B-2, and B-3. Therefore, if each fuel burning unit is operated at capacity, or below, there should not be a violation of the emission standards. Calculations demonstrating compliance are included in Attachment A.

Compliance with the SO₂ emission standard will be monitored by requiring the permittee to obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel supplier certification shall include the following:

The name of the fuel supplier;

The date on which the oil was received;

The volume of distillate oil delivered in the shipment;

A statement that the oil complies with the American Society for Testing and Materials specifications for fuel oil numbers 1 and 2; and

The sulfur content of the oil.

Compliance with the PM and opacity standards will be monitored by visible emissions observations performed on boilers, B-1, B-2, and B-3, during periods of normal unit operation for a sufficient time interval to determine if there are any visible emissions. If visible emissions are observed during these weekly observations, or at any other time, visible emissions evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9 will be conducted on those units with visible emissions. The VEE will be conducted for a minimum of six (6) minutes. If any of the observations exceed twenty percent (20%), the VEE will be conducted for a total of sixty (60) minutes. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as practicable such that no visible emissions are present; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation will be maintained, including at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

Recordkeeping

The permittee will maintain records of the following:

Written operating procedures, maintenance schedules, and operational adjustments for each fuel burning unit, B-1, B-2, and B-3, which can be used to determine emissions;

Initial and periodic operator training;

Fuel supplier certifications;

All visible emission observations and evaluations; and

Emission factors and equations used to calculate actual emission rates of particulate matter and sulfur dioxide.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements for the fuel burning units.

EMISSION UNIT APPLICABLE REQUIREMENTS - Spray Coating Equipment: PB-1 and PB-2

Limitations

The following limitations are state Best Available Control Technology (BACT) requirements from the minor NSR Permit issued April 13, 1999, as amended July 6, 1999, December 5, 2002, January 30, 2004, and November 28, 2005:

Condition 3: Particulate emissions from spray booths, PB-1, and PB-2, shall be controlled by paper filters;

Condition 8: Spray booth PB-2 shall operate no more than 2,040 hours per year;

Condition 12: Throughput of Sherwin Williams Polane or equivalent coatings, as described in the January 29, 1993 permit application, to spray booth PB-2 shall not exceed 6 pounds per hour;

Condition 13: Annual throughput of Sherwin Williams Polane or equivalent coatings to spray booth PB-2 shall not exceed 6.12 tons per year, calculated as the sum of each consecutive 12-month period;

Condition 14: Emissions from the operation of spray booth PB-2 shall not exceed the following:

VOC	6.70	lb/hr	4.50	tons/yr
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Condition 18: Visible emissions from each spray booth, PB-1, and PB-2, shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

Conditions 12 and 13 of the current NSR permit are combined into one condition in the Title V permit to facilitate inclusion of the coating VOC content indicated in the January 29, 1993 permit application referenced in the current NSR permit.

As an existing general use coating source, 9 VAC 5-60-100, Subpart PPPP of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart PPPP-National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and

Products, apply to spray booth PB-2:

40 CFR 63.4490(b)(1): Hazardous air pollutant (HAP) emissions not to exceed 0.16 pound HAP per pound coating solids;

40 CFR 63.4491: Compliance options;

40 CFR 63.4492(a): No operating limits are required for the Compliant Material option or the Emission Rate Without Add-on Controls option;

40 CFR 63.4493(a): No work practice standards are required for the Compliant Material option or the Emission Rate Without Add-on Controls option; and

40 CFR 63.4500(a)(1): General compliance requirements.

In previous years, spray booth PB-1 was used for coating operations at the facility. Booth PB-1 was no longer used for coating operations after the construction of spray booth PB-2 in 1993. However, it continues to be referred to as spray booth PB-1. There are no coating operations conducted in booth PB-1 and there is no coating equipment (spray guns, dip tanks, etc.) in booth PB-1. Therefore, the provisions of 40 CFR Part 63, Subpart PPPP do not apply to PB-1. PB-1 is used for fabrication that requires sanding or cutting of parts; therefore, paper filters are required for control of particulate emissions.

Monitoring

The monitoring and recordkeeping requirements in Condition 20 of the NSR permit have been modified to meet Part 70 requirements.

Use of paper filters to control particulate emissions from each spray booth, PB-1, and PB-2, will be monitored by visible emissions observations and maintaining records of air pollution control device operating procedures and maintenance, based on the manufacturer's recommendations, at minimum.

Annual hours of operation of spray booth PB-2 will be monitored by maintaining records of monthly and annual hours of operation. Annual hours of operation will be calculated monthly as the sum of each consecutive 12-month period.

Hourly and annual throughput of Sherwin Williams Polane or equivalent coatings to spray booth PB-2 will be monitored by maintaining records of monthly and annual amounts and types of coatings throughput to the booth. Annual throughput will be calculated monthly as the sum of each consecutive 12-month period. Hourly throughput will be calculated by dividing monthly

throughput of Sherwin Williams Polane or equivalent coatings by the monthly hours of operation.

Hourly and annual limits established for VOC emissions from spray booth PB-2 are based on throughput limits in Conditions 12 and 13 of the NSR permit as described in the January 29, 1993 permit application. Regarding VOC, coating throughput is the factor that determines emission rates. Calculations have been included in Attachment B to demonstrate that if Strongwell Corporation-Bristol Division throughputs all that is permitted or less, then the emission limits will not be violated. Recordkeeping demonstrating compliance with the throughput limits can be used to demonstrate compliance with the VOC emission limits and satisfy the periodic monitoring requirement.

Visible emission limitations will be monitored by visible emissions observations. Visible emissions observations are to be performed daily on each spray booth exhaust, PB-1, and PB-2, during periods of normal unit operation for a sufficient time interval to determine if there are any visible emissions. If visible emissions are observed during these daily observations, or at any other time, visible emissions evaluations (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 will be conducted on those units with visible emissions. The VEE will be conducted for a minimum of six (6) minutes. If any of the observations exceed five percent (5%), the VEE will be conducted for a total of sixty (60) minutes. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as practicable such that no visible emissions are present; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation will be maintained, including, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

9 VAC 5-60-100, Subpart PPPP of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart PPPP-National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products, apply to spray booth PB-2:

40 CFR 63.4540 and 4541: The facility used the Compliant Material option during the initial compliance period and completed the initial compliance demonstration in accordance with the provisions of 40 CFR 63.4540 and 4541. These initial compliance requirements and the initial compliance requirements in 40 CFR 63.4550 and 4551 for the Emission Rate without Add-on Controls option are no longer applicable and have been removed from the Title V permit.

40 CFR 63.4542: Continuous compliance requirements for the Compliant Material option;

Language in Condition IV.B.2 of the Title V permit has been revised to more accurately reflect the description of a compliance period as referenced in 40 CFR 63.4542(a).

40 CFR 63.4552: Continuous compliance requirements for the Emission Rate Without Add-on Controls option.

Language in Condition IV.B.3 of the Title V permit has been revised to more accurately reflect the description of a compliance period as referenced in 40 CFR 63.4542(a).

Recordkeeping

The permittee will maintain records of the following:

All visible emissions observations and evaluations;

Air pollution control device operating procedures and maintenance based on the manufacturer's recommendations, at minimum;

Monthly and annual hours of operation of spray booth PB-2;

Hourly, monthly and annual throughput of each type of coating to spray booth PB-2;

VOC content of each coating; and

Annual VOC emissions from spray booth PB-2.

9 VAC 5-60-100, Subpart PPPP of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart PPPP-National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products, are applicable:

40 CFR 63.4530 and 4531: Recordkeeping requirements.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

9 VAC 5-60-100, Subpart PPPP of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart PPPP-National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products, are applicable:

40 CFR 63.4510 and 4520: Notification and reporting requirements.

The notification of compliance status required by 40 CFR 63.4510(c) was received by DEQ on May 28, 2008; therefore, reference to this requirement has been removed from the Title V permit. The first semiannual compliance report required by 40 CFR 63.4520(a)(1)(i) was received by DEQ on July 10, 2008; therefore, reference to this requirement has been removed from the Title V permit.

EMISSION UNIT APPLICABLE REQUIREMENTS - Pultrusion Equipment

Limitations

The following limitations are State BACT requirements from the minor NSR Permit issued April 13, 1999, as amended July 6, 1999, December 5, 2002, January 30, 2004, and November 28, 2005:

Condition 4: Particulate emissions from cutting operations associated with the pultrusion equipment shall be controlled by fabric filters;

Condition 9: Throughput of styrene resin mix to the pultrusion equipment shall not exceed 3,600 lb/hr and 7,560 tons/yr;

Condition 10: Throughput of methyl methacrylate resin mix to the pultrusion equipment shall not exceed 300 lb/hr and 720 tons/yr;

Condition 11: Throughput of TYBON 289D17 or equivalent phenolic resin mix to the pultrusion equipment shall not exceed 312 lb/hr and 750 tons/yr;

Condition 16: Emissions from the operation of all the facility's pultrusion equipment shall not exceed the following:

VOC	43.32 lb/hr	92.87 tons/yr
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Condition 17: The pultrusion units shall be labeled with their appropriate reference numbers such that labels are readily visible; and

Condition 19: Visible emissions from the fabric filter exhausts shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

As an existing reinforced plastic composites production facility with no centrifugal casting or

continuous lamination/casting operations, 9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW- National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the pultrusion operation:

40 CFR 63.5805(b): Emission limitation for pultrusion in Table 3 and work practice standards for pultrusion of large parts in Table 4;

40 CFR 63.5830(b) – (e): Compliance options for existing pultrusion operations; and

40 CFR 63.5835(a): General requirements for compliance with the emission limitation for pultrusion in Table 3.

There are no add-on control devices at the facility for HAP emissions from pultrusion equipment. Therefore, the emissions capture and control option in 40 CFR 63.5830(a) is not included in the permit.

Monitoring

The monitoring and recordkeeping requirements in Condition 20 of the NSR permit have been modified to meet Part 70 requirements.

Use of fabric filters to control particulate emissions from the pultrusion equipment will be monitored by visible emission observations and maintaining records of air pollution control device operating procedures and maintenance based on the manufacturer's recommendations, at minimum.

The hourly and annual limits established for VOC emissions from the pultrusion equipment are based on styrene resin mix, methyl methacrylate resin mix and phenolic resin mix throughput limitations contained in Conditions 9, 10, and 11 of the NSR permit. Regarding VOC, resin mix throughput is the factor that determines emission rates. Calculations have been included in Attachment C to demonstrate that if Strongwell Corporation-Bristol Division processes all that is permitted or less, then the emission limits will not be violated. Recordkeeping demonstrating compliance with the throughput limits can be used to demonstrate compliance with the VOC emission limits and satisfy the periodic monitoring requirement.

Emissions from the operation of pultrusion equipment will be calculated using DEQ approved emission factors supplied by the permittee as shown below:

Styrene Resin Mix: 0.0104 lb VOC/lb of styrene resin mix;

Methyl Methacrylate Resin Mix: 0.0104 lb VOC/lb of methyl methacrylate resin mix; and

Phenolic Resin Mix: 0.00243 lb VOC/lb of phenolic resin mix.

Labeling of all pultrusion equipment with the appropriate reference number will be monitored by maintaining a log of all pultrusion equipment at the facility containing the corresponding reference numbers.

Visible emission limitations will be monitored by visible emissions observations. Visible emissions observations are to be performed daily on the fabric filter exhausts during periods of normal unit operation for a sufficient time interval to determine if there are any visible emissions. If visible emissions are observed during these daily observations, or at any other time, visible emissions evaluations (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 will be conducted on those units with visible emissions. The VEE will be conducted for a minimum of six (6) minutes. If any of the observations exceed five percent (5%), the VEE will be conducted for a total of sixty (60) minutes. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as practicable such that no visible emissions are present; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation will be maintained, including, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the pultrusion operation:

40 CFR 63.5895(c) and (e): Monitoring and data collection requirements for resin use and wet area enclosures; and

40 CFR 63.5900(a)(2) and (a)(4): Continuous compliance demonstration requirements.

Recordkeeping

The permittee will maintain records of the following:

All visible emissions observations and evaluations;

Air pollution control device operating procedures and maintenance based on the manufacturer's recommendations, at minimum;

Emission factors used to calculate VOC and styrene emissions from pultrusion equipment operation;

Pultrusion equipment reference numbers;

Hourly, monthly and annual throughput of each type resin mix to the pultrusion equipment; and

Monthly and annual hours of operation of the pultrusion equipment.

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the pultrusion operation:

40 CFR 63.5895(c) and (e): Recordkeeping requirements for resin use and wet area enclosures; and

40 CFR 63.5915 and 5920: Recordkeeping requirements.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the pultrusion operation:

40 CFR 63.5905 and 5910: Notification and reporting requirements.

The initial compliance report required by 40 CFR 63.5910(a)(1) was received by DEQ on July 25, 2006; therefore, reference to this requirement has been removed from the Title V permit.

EMISSION UNIT APPLICABLE REQUIREMENTS - Molded Grating Operation: M.G.1 (various open molds)

Limitations

The following limitations are State BACT requirements from the minor NSR permit issued April 13, 1999, as amended July 6, 1999, December 5, 2002, January 30, 2004, and November 28, 2005:

Condition 6: Total annual throughput of polyester resin or methyl methacrylate resin to

the fiberglass grating production equipment shall not exceed 608.18 tons/yr;

Condition 7: Annual throughput of styrene monomer to the fiberglass grating production equipment shall not exceed 79.65 tons/yr; and

Condition 15: Emissions from the fiberglass grating production equipment shall not exceed the following:

VOC	8.47	lb/hr	25.45	tons/yr
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The molded grating process at the facility meets the definition of polymer casting indicated in 40 CFR 63.5935 of Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production. Composite materials are poured into open grating molds and cured. The materials are not rolled out or worked while in the mold, except for smoothing or vibrating to remove bubbles. 40 CFR 63.5790(c) indicates polymer casting is excluded from any requirements in the subpart. Therefore, while the molded grating operation at the facility is subject to Subpart WWWW, the process is excluded from any requirements in it.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 20 of the NSR permit have been modified to meet Part 70 requirements.

The annual limit established for VOC emissions from the molded grating operation is based on annual throughput limits contained in Conditions 6 and 7 of the NSR permit. Calculations have been included in Attachment D to demonstrate that if Strongwell Corporation-Bristol Division throughputs all that is permitted or less, then the annual emission limit will not be violated. Recordkeeping demonstrating compliance with throughput limits can be used to demonstrate compliance with VOC emission limits and satisfy the periodic monitoring requirement.

The hourly VOC emission limit is based on maximum capacity of the fiberglass grating production equipment. Therefore, if the fiberglass grating equipment is operated at capacity, or below, there should not be a violation of the emission standard.

The permittee will maintain records of the following:

Monthly and annual hours of operation of the open molding operation;

Annual throughput of each type resin mix to the fiberglass grating production equipment;

Annual throughput of styrene monomer to the fiberglass grating production equipment;
and

Emission factors used to calculate emissions from the open molding process.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements for the molded grating operation.

EMISSION UNIT APPLICABLE REQUIREMENTS – Resin Mixing and Storage Equipment: Mix, T-1 through T-6, and T-8

Limitations

As an existing reinforced plastic composites production facility with no centrifugal casting or continuous lamination/casting operations, 9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the resin mixing and storage operations:

40 CFR 63.5835(a): General compliance requirements and applicable work practice standards in Table 4 of the subpart.

Monitoring and Recordkeeping

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the resin mixing and storage operations:

40 CFR 63.5900(a)(4): Continuous compliance demonstration requirements for work practice standards for existing mixing, storage and cleaning operations; and

40 CFR 63.5915 and 5920: Recordkeeping requirements.

Testing

The permit does not require source tests. The Department and EPA have authority to require

testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

9 VAC 5-60-100, Subpart WWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to the resin mixing and storage operations:

40 CFR 63.5905 and 5910: Notification and reporting requirements.

The initial compliance report required by 40 CFR 63.5910(a)(1) was received by DEQ on July 25, 2006; therefore, reference to this requirement has been removed from the Title V permit.

EMISSION UNIT APPLICABLE REQUIREMENTS - Chrome Plating Operation: CP-1

Limitations

The permittee operates a chromium electroplating process used to resurface production equipment at their facility. The permittee's chromium electroplating equipment, installed before December 16, 1993, has a maximum rectifier capacity of less than 60 million ampere-hours per year. A composite mesh-pad system is used to control emissions from the chromium electroplating operation. The permittee is subject to 9 VAC 5-60-100, Subpart N of Virginia air pollution regulations and 40 CFR Part 63, Subpart N, National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (Chromium Electroplating MACT). The permit contains all applicable limitations from the Chromium Electroplating MACT pertaining to small, existing sources. The permittee is also subject to sections of 40 CFR 63, Subpart A, General Provisions as identified by Table 1 of Subpart N. Applicable limitations from the general provisions are also included in the permit.

The permittee conducted initial performance testing in 1996, as required by the Chromium Electroplating MACT. These tests indicated compliance with applicable emission requirements. In accordance with 40 CFR 63.343(c)(1)(ii), the Limitations section of the Title V permit has been revised to require the permittee to operate the mesh pad system such that the pressure drop across the system equals the average differential pressure drop of 2.8 inches of water column documented in the test report instead of the pressure drop range indicated in the previous Title V permit.

The Limitations section of the Title V permit has been revised in accordance with the 2006 amendments to 40 CFR Part 63 Subpart N.

The following Virginia Administrative Codes that have specific emission requirements are applicable:

9 VAC 5-50-290: Standard for Visible Emissions.

According to 9 VAC 5-50-290, the provisions of Article 1 of 9 VAC 5 Chapter 50 apply. Those provisions limit discharge into the atmosphere from any affected facility any visible emissions, which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not more than 30% opacity. This opacity limit for the chrome electroplating process exhaust, CP-2, is included in the permit.

Monitoring

The permit contains applicable requirements from the Chromium Electroplating MACT for continuous compliance, including quarterly monitoring of work practice standards and daily monitoring of air pollution control system parameters. The Chromium Electroplating MACT contains adequate monitoring to meet the periodic monitoring requirements; therefore, no additional monitoring requirements are incorporated into the Title V permit.

Compliance with the opacity standard, as indicated by 9 VAC 5-50-290, will be monitored by visible emissions observations. Visible emissions observations are to be performed weekly during periods of normal unit operation for a sufficient time interval to determine if there are any visible emissions. If visible emissions are observed during these weekly observations, or at any other time, visible emissions evaluations (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 will be conducted. The VEE will be conducted for a minimum of six (6) minutes. If any of the observations exceed twenty percent (20%), the VEE will be conducted for a total of sixty (60) minutes. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as practicable such that no visible emissions are present; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation will be maintained, including, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

Recordkeeping

The permit contains applicable requirements from the Chromium Electroplating MACT for recordkeeping, including records pertaining to inspection, maintenance, malfunction, performance tests, monitoring data, excess emissions, and processes.

The permittee will maintain records of all visible emission observations and evaluations.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permit contains applicable requirements from the Chromium Electroplating MACT for reporting of ongoing compliance status as well as emission limit exceedances indicated by ongoing monitoring of air pollution control system operating parameters. The permit requires this reporting to be submitted concurrently with the reporting requirements contained in 9 VAC 5-80-110.

EMISSION UNIT APPLICABLE REQUIREMENTS - Facility-Wide Requirements

Limitations

As an existing reinforced plastic composites production facility with no centrifugal casting or continuous lamination/casting operations, 9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to cleaning operations for reinforced plastic composites production equipment subject to Subpart WWWW:

40 CFR 63.5805(a): Work practice standards for cleaning in Table 4 of the subpart;

40 CFR 63.5835(a): General requirements for compliance with the work practice standard for cleaning in Table 4 of the subpart.

Monitoring and Recordkeeping

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to cleaning operations for reinforced plastic composites production equipment subject to Subpart WWWW:

40 CFR 63.5900(a)(4): Compliance with the work practice standards in Table 4 is demonstrated by performing the work practice required for the operation; and

40 CFR 63.5915(d) and 5920: Recordkeeping requirements.

The permittee will maintain records of the following:

A copy of each notification and report submitted to comply with the permit; and

A certified statement of compliance with the work practice requirements.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

9 VAC 5-60-100, Subpart WWWW of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart WWWW-National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, apply to cleaning operations for reinforced plastic composites production equipment subject to Subpart WWWW:

40 CFR 63.5905 and 5910: Notification and reporting requirements.

The initial compliance report required by 40 CFR 63.5910(a)(1) was received by DEQ on July 25, 2006; therefore, reference to this requirement has been removed from the Title V permit.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upset, within one business day.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-2003.”

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the

general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61, subpart M, National Emission Standards for Asbestos.

FUTURE APPLICABLE REQUIREMENTS

A review of the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters in 40 CFR 63, Subpart DDDDD indicates those standards may apply to the boilers B-1, B-2, B-3, B-4 and curing oven WR-1. Subpart DDDDD was signed on February 21, 2011. Available information indicates a compliance date for existing sources three years after publication in the Federal Register. In accordance with 9 VAC 5-80-110.L.1, the permit will not require reopening to include applicable requirements from Subpart DDDDD. Those requirements will be included in the next permit renewal. However, the source must comply with the applicable provisions of the subpart in accordance with indicated compliance times even if those requirements are not included in the permit.

INAPPLICABLE REQUIREMENTS

New Source Performance Standard (NSPS) Requirements for Polymeric Coating of Supporting Substrates in 40 CFR Part 60, Subpart VVV, and 9 VAC 5-50-410, are not applicable as indicated by the non-applicability determination memorandum from Michael S. Alushin, Director, Compliance Assessment and Media Programs Division, Office of Compliance, U.S. Environmental Protection Agency, dated March 20, 2001. Differences between the fiberglass reinforced plastic pultrusion process and the processes described in the Background Information Document (BID) for NSPS Subpart VVV include, but are not limited to the following:

All coated materials discussed in the BID are polymers; the permittee's process utilizes monomeric styrene;

The pultrusion process does not utilize solvents; the styrene monomer is liquid with physical properties sufficient for processing;

There are no flashoff, drying or curing ovens associated with the pultrusion process; they are unnecessary due to the fact that no solvents are used that need to be dried and the styrene monomer is transformed to polystyrene upon heating the liquid in the forming die. The Grieve curing oven permitted in the current NSR Permit is used to cure resin residue in empty drums. It is not used for production;

The finished product is a structural component and completely rigid, not capable of being rewound and is totally inflexible as it comes off the production line; and

The fiberglass-reinforcing matrix is not a substrate to be coated or merely impregnated. It is a critical, supporting structure.

New Source Performance Standard (NSPS) Requirements for Volatile Organic Liquid Storage Vessels in 40 CFR Part 60, Subpart Kb, and 9 VAC 5-50-410, are not applicable. According to application information, the storage capacity of each volatile organic liquid storage vessel at the facility is less than the applicable capacity indicated by the standards.

The MACT standard for halogenated solvent cleaning in 40 CFR Part 63, Subpart T, and 9 VAC 5 Chapter 60, Part II, Article 2, Subpart T are not currently applicable. The facility does not use any halogenated cleaning solvents in its parts washer, SR-1.

Results of the calculations in Attachment E of this Statement of Basis indicate the fuel burning equipment, B-1 through B-4, and WR-1, has the potential to emit approximately 16,502 short tons, or 14,970 metric tons, of carbon dioxide-equivalent (CO_{2e}) per year. The provisions of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting require owners and operators of general stationary fuel combustion sources that emit 25,000 metric tons CO_{2e} or more per year in combined emissions from such units, to report greenhouse gas (GHG) emissions, annually. The definition of “applicable requirement” in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. The current state minor NSR permit for the Strongwell Corporation– Bristol Division facility contains no GHG-specific applicable requirements and there have been no modifications at the facility requiring a PSD permit. Therefore, there are no applicable requirements for the facility specific to GHG.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation ¹ (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
WR-1	Grieve model B4-650 natural gas-fired oven	5-80-720 C.2.a	PM-10, VOC, NOx, SO ₂ , CO	0.7 MMBtu/hr heat input
T-7	Distillate oil bulk storage tank	5-80-720-B.2 & B.5	VOC	8,000 gallons storage capacity
T-9	Powdered clay bulk storage tank	5-80-720-B.1	Particulate Matter	3,000 cubic feet storage capacity
PBM-2	Pull-Block molding process	5-80-720 B.5	Methylene Bis Orthocloro Aniline	20 lb/hr, output
FAB	Fabrication and Hand lay-up area	5-80-720 B.2	VOC and HAP	0.5 ton/hr, output
FRB	Fiber bolt area	5-80-720 B.1	Particulate Matter	50 lb/hr, output
LBR	Laboratory and burn room	5-80-720 A.28	Particulate Matter	0.5 lb/hr, output
B-4	Precision, low pressure, natural gas-fired boiler	5-80-720 C.2.a	PM-10, VOC, NOx, SO ₂ , CO	0.84 MMBtu/hr heat input

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

The resin mixing room (Mix), resin bulk storage tanks (T-1 through T-6), and solvent bulk storage tank (T-8), are listed in the application as insignificant units/activities; however, the

Reinforced Plastics Composite MACT contains requirements applicable to all that equipment. Therefore, Mix, T-1 through T-6, and T-8 are not included in the table of insignificant emission units.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was published in the Bristol Herald Courier newspaper in Bristol, Virginia on February 3, 2011. Copies of the draft permit and public notice were sent to the EPA by electronic mail January 28, 2011.

A copy of the public notice was sent to the affected states, including Kentucky, North Carolina and Tennessee on January 28, 2011.

A copy of the public notice was sent to all persons on the Title V mailing list by postal mail, electronic mail, or facsimile no later than February 3, 2011.

Public comments were accepted from February 4, 2011 through March 5, 2011. No comments were received from the public or affected states regarding the draft permit.

EPA provided comments on the proposed permit by e-mail on March 10, 2011. DEQ responses to EPA comments can be found in the Response to Comments Document.

Attachment A

Strongwell Corporation - Bristol Division Registration No. 10211

Emissions of Particulate Matter and Sulfur Dioxide from Fuel Burning Equipment, B-1, B-2, and B-3, Based on Maximum Capacity

Emissions are calculated using current emission factors for these types of units. There are no add-on pollution control devices associated with the affected boilers. Since each of these units can burn either distillate oil or natural gas, particulate and sulfur dioxide emissions from burning each type of fuel will be considered.

PARTICULATE MATTER

Particulate emissions from the fuel burning installation operating at maximum capacity and consuming natural gas are calculated as follows:

Particulate emission factor:	3 lbs/million cubic feet burned	SCC 10200603
Total maximum burned/hr:	0.02288 million cubic feet	Source information
Total installation capacity:	23.052 MMBtu/hr	Source information

$(0.02288 \text{ million cubic feet/hr})(3 \text{ lbs/million cubic feet})/(23.052 \text{ MMBtu/hr}) = 0.003 \text{ lb/MMBtu.}$

Particulate emissions from the fuel burning installation operating at maximum capacity and consuming distillate oil are calculated as follows:

Particulate emission factor:	2 lbs/1000 gallons burned	SCC 10200503
Total maximum burned/hr:	164.5 gallons	Source information
Total installation capacity:	23.052 MMBtu/hr	Source information

$(164.5 \text{ gallons/hr})(2 \text{ lb/1000 gallons})/(23.052 \text{ MMBtu/hr}) = 0.01 \text{ lb/MMBtu.}$

A comparison of calculated particulate emissions from the fuel burning installation operating at maximum capacity burning either type of fuel to the particulate emission ratio as indicated by 9 VAC 5-40-900A, demonstrates compliance.

SULFUR DIOXIDE

Emission limits are based on the maximum possible emissions from distillate oil containing 0.5% sulfur by weight. Since each of these units can burn either distillate oil or natural gas, sulfur dioxide emissions from burning each type of fuel will be considered. Sulfur dioxide emissions from the fuel burning installation operating at maximum capacity and consuming natural gas are calculated as follows:

Sulfur dioxide emission factor:	0.6 lb/million cubic feet burned	SCC 10200603
Total maximum burned/hr:	0.02288 million cubic feet	Source info.

$(0.0228 \text{ million cubic feet/hr})(0.6 \text{ lb/million cubic feet}) = 0.014 \text{ lb/hr.}$

Sulfur dioxide emissions from the fuel burning installation operating at maximum capacity and consuming distillate oil are calculated as follows:

Sulfur dioxide emission factor:	143.6(S) lb/1000 gallons burned	SCC 10200503
	S = % sulfur by weight	
Total maximum burned:	164.5 gallons/hr	Source info.

$(164.5 \text{ gallons/hr})(143.6(0.5) \text{ lb/1000 gallons}) = 11.8 \text{ lb/hr.}$

A comparison of calculated sulfur dioxide emissions to the sulfur dioxide emission standard as indicated by 9 VAC 5-40-930A.1 demonstrates compliance.

Attachment B

Strongwell Corporation - Bristol Division Registration No. 10211

VOC Emissions from Spray Booth PB-2 Based on Throughput Limits

The engineering evaluation of the permit application for spray booth PB-2 indicates material safety data sheets (MSDS) for all components of spray coatings reported by the applicant were reviewed for particulate matter and VOC content. Particulate matter and VOC emissions were predicted based on maximum coating particulate and VOC content and maximum coating usage rate as reported by the applicant. The previous engineering evaluation predicted particulate emissions to be negligible as controlled by Best Available Control Technology (BACT) required by 9 VAC Chapter 50 and subsequent New Source Review permit conditions. These BACT requirements include paper filtration, operational and throughput limitations. Spray booth PB-2 is limited to consuming no more than 6 lb/hr and 6.12 tons/yr of coatings. Hourly consumption is based on the worst case scenario of 100% paint, 25% catalyst and 25% reducer. Annual consumption is based on 50% paint, 25% catalyst and 25% reducer.

VOLATILE ORGANIC COMPOUNDS

There are no add-on controls for VOC emissions from spray booth PB-2. According to MSDS information, the reducer is 100% volatile. F63V1 Topcoat Clear paint and V66V27 Catalyst contain the most VOC with 76.5% VOC by weight and 40% VOC by weight, respectively.

Reducer

$$(6 \text{ lb/hr})(0.25)(100\%) = 1.5 \text{ lb/hr};$$

$$(6.12 \text{ tons/yr})(0.25)(1) = 1.53 \text{ tons/yr};$$

Catalyst

$$(6 \text{ lb/hr})(0.25)(0.4) = 0.6 \text{ lb/hr};$$

$$(6.12 \text{ tons/yr})(0.25)(0.4) = 0.61 \text{ tons/yr};$$

Paint

$$(6 \text{ lb/hr})(0.765) = 4.59 \text{ lb/hr};$$

$$(6.12 \text{ tons/yr})(0.5)(0.765) = 2.34 \text{ tons/yr}.$$

Total hourly VOC emissions = 6.69 lb/hr.

Total annual VOC emissions = 4.48 tons/yr.

A comparison of the hourly (6.7 lb/hr) and annual (4.5 tons/yr) VOC emissions limits to predicted VOC emissions based on throughput limits demonstrates compliance.

Attachment C

Strongwell Corporation - Bristol Division Registration No. 10211

VOC Emissions from Pultrusion Equipment Based on Throughput Limits

Emissions from pultrusion machine operation are calculated using DEQ approved emission factors as shown below:

Styrene Resin Mix: 0.0104 lb VOC/lb of styrene resin mix

Methyl Methacrylate Resin Mix: 0.0104 lb VOC/lb of methyl methacrylate resin mix

Phenolic Resin Mix: 0.00243 lb of VOC/lb of phenolic resin mix

The previous engineering evaluation predicted particulate emissions from pultrusion machine operation to be negligible as controlled by Best Available Control Technology (BACT) required by 9 VAC Chapter 50 and subsequent New Source Review permit conditions. These BACT requirements include fabric filtration, throughput limitations and visible emission limitations. Throughput to the pultrusion equipment is limited to no more than 3600 lb/hr and 7560 tons/yr of styrene resin mix, 300 lb/hr and 720 tons/yr of methyl methacrylate resin mix, and 312 lb/hr and 750 tons/yr of phenolic resin mix.

VOLATILE ORGANIC COMPOUNDS

Uncontrolled VOC emissions are calculated as follows:

Styrene Resin Mix

$(3600 \text{ lb/hr})(0.0104 \text{ lb VOC/lb mix}) = 37.44 \text{ lb/hr};$

$(7560 \text{ tons/yr})(0.0104 \text{ lb VOC/lb mix}) = 78.62 \text{ tons/yr}.$

Methyl Methacrylate resin Mix

$(300 \text{ lb/hr})(0.0104 \text{ lb VOC/lb mix}) = 3.12 \text{ lb/hr};$

$(720 \text{ tons/yr})(0.0104 \text{ lb VOC/lb mix}) = 7.49 \text{ tons/yr}.$

Phenolic Resin Mix

$(312 \text{ lb/hr})(0.00243 \text{ lb phenol as VOC/lb mix}) = 0.76 \text{ lb/hr};$

$(312 \text{ lb/hr})(0.5\% \text{ formaldehyde as VOC}) = 1.56 \text{ lb/hr};$

$(750 \text{ tons/yr})(0.00243 \text{ lb phenol as VOC/lb mix}) = 1.82 \text{ tons/yr};$

$(750 \text{ tons/yr})(0.5\% \text{ formaldehyde as VOC}) = 3.75 \text{ tons/yr};$

Total hourly VOC emissions from pultrusion machine operation = 42.88 lb/hr.

Total annual VOC emissions from pultrusion machine operation = 91.68 tons/yr.

A comparison of the hourly (43.32 lb/hr) and annual (92.87 tons/yr) VOC emissions limits to predicted VOC emissions based on throughput limits demonstrates compliance.

Attachment D

Strongwell Corporation - Bristol Division Registration No. 10211

VOC Emissions from the Open Molding (fiberglass grating) Operation, M.G.1, Based on Throughput Limits

A review of the initial evaluation of the open molding operation indicates the maximum capacity of the operation is 54 grating parts per 24 hours (2.25 parts/hr) using a combined total of 101.9 pounds of resin and monomer per part. The VOC emissions factor based on resin and monomer throughput is 70.26 pounds VOC per ton of resin and monomer combined. The current NSR permit limits total annual throughput of polyester (styrene) resin or methyl methacrylate resin to the open molding operation to no more than 608.18 tons/yr and annual throughput of styrene monomer to no more than 79.65 tons/yr. If the permittee uses the maximum permitted amount of resin and monomer, VOC emissions from the open molding operation are predicted as follows:

$$\begin{aligned}(70.26 \text{ lb VOC/ton})(2.25 \text{ parts/hr})(101.9 \text{ lb/part})(1 \text{ ton}/2000 \text{ lb}) &= 8.05 \text{ lb VOC/hr} \\ (70.26 \text{ lb VOC/ton})(687.83 \text{ tons/yr})(1 \text{ ton}/2000 \text{ lb}) &= 24.16 \text{ tons VOC/yr}\end{aligned}$$

A comparison of the hourly (8.47 lb/hr) and annual (25.45 tons/yr) VOC emissions limits to predicted VOC emissions based on throughput limits demonstrates compliance.

Attachment E

Strongwell Corporation - Bristol Division Registration No. 10211

Greenhouse Gas Emissions from the Fuel Burning Equipment, B-1 through B-4, and WR-1, Based on Maximum Capacity

Emissions are calculated using emission factors from AP-42. There are no add-on pollution control devices associated with the fuel burning equipment. Since each of the boilers, B-1 through B-4, can burn distillate oil or natural gas, emissions of greenhouse gases (GHG) from burning each type of fuel in those units will be considered. The curing oven, WR-1, combusts only natural gas. According to information from the source, total maximum consumption of natural gas by the boilers is 0.02288 million cubic feet/hr, and total maximum consumption of fuel oil is 164.5 gal/hr. Maximum consumption of natural gas by the curing oven is 0.000681 million cubic feet/hr.

CARBON DIOXIDE

Carbon dioxide (CO₂) emissions from the boilers operating at maximum capacity on natural gas are calculated as follows:

CO₂ emission factor: 120,000 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$(0.02288 \text{ million cubic feet/hr})(120,000 \text{ lbs/million cubic feet}) = 2745.6 \text{ lbs/hr}$
 $(2745.6 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 12,025.7 \text{ tons/yr}$

CO₂ emissions from the boilers operating at maximum capacity on distillate oil are calculated as follows:

CO₂ emission factor: 22,300 lbs/1000 gal burned AP-42 Table 1.3-12

$(164.5 \text{ gallons/hr})(22,300 \text{ lb/1000 gallons}) = 3,668.4 \text{ lb/hr}$
 $(3,668.4 \text{ lb/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 16,067.6 \text{ tons/yr}$

The above calculations indicate worst case CO₂ emissions of 16,067.6 tons/yr from distillate oil combustion by the boilers.

CO₂ emissions from the natural gas-fired curing oven operating at maximum capacity are calculated as follows:

CO₂ emission factor: 120,000 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$(0.000681 \text{ million cubic feet/hr})(120,000 \text{ lbs/million cubic feet}) = 81.72 \text{ lbs/hr}$
 $(81.72 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 357.93 \text{ tons/yr}$

Total worst case CO₂ emissions from the fuel burning equipment are 16,425.53 tons/yr

METHANE

Methane (CH₄) emissions from the boilers operating at maximum capacity on natural gas are calculated as follows:

CH₄ emission factor: 2.3 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$(0.02288 \text{ million cubic feet/hr})(2.3 \text{ lbs/million cubic feet}) = 0.05 \text{ lbs/hr}$
 $(0.05 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.22 \text{ ton/yr}$

CH₄ emissions from the boilers operating at maximum capacity on distillate oil are calculated as follows:

CH₄ emission factor: 0.052 lbs/1000 gal burned AP-42 Table 1.3-3

$(164.5 \text{ gallons/hr})(0.052 \text{ lb/1000 gallons}) = 0.009 \text{ lb/hr}$
 $(0.009 \text{ lb/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.04 \text{ ton/yr}$

The above calculations indicate worst case CH₄ emissions of 0.22 ton/yr from natural gas combustion by the boilers.

CH₄ emissions from the natural gas-fired curing oven operating at maximum capacity are calculated as follows:

CH₄ emission factor: 2.3 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$(0.000681 \text{ million cubic feet/hr})(2.3 \text{ lbs/million cubic feet}) = 0.0016 \text{ lbs/hr}$
 $(0.0016 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.007 \text{ ton/yr}$

Total worst case CH₄ emissions from the fuel burning equipment are 0.23 tons/yr. A factor of 21 for Global Warming Potential, as indicated in 40 CFR Part 98, is applied to the worst case methane emissions to calculate a CO₂ equivalent (CO_{2e}) of 4.83 tons CO_{2e}/yr.

NITROUS OXIDE

Nitrous oxide (N₂O) emissions from the boilers operating at maximum capacity on natural gas are calculated as follows:

N₂O emission factor: 2.2 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$(0.02288 \text{ million cubic feet/hr})(2.2 \text{ lbs/million cubic feet}) = 0.05 \text{ lbs/hr}$
 $(0.05 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.22 \text{ ton/yr}$

N₂O emissions from the boilers operating at maximum capacity on distillate oil are calculated as follows:

N₂O emission factor: 0.11 lbs/1000 gal burned AP-42 Table 1.3-8

$$(164.5 \text{ gallons/hr})(0.11 \text{ lb/1000 gallons}) = 0.018 \text{ lb/hr}$$
$$(0.018 \text{ lb/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.079 \text{ ton/yr}$$

The above calculations indicate worst case N₂O emissions of 0.22 ton/yr from natural gas combustion by the boilers.

N₂O emissions from the natural gas-fired curing oven operating at maximum capacity are calculated as follows:

N₂O emission factor: 2.2 lbs/10⁶ cubic feet burned AP-42 Table 1.4-2

$$(0.000681 \text{ million cubic feet/hr})(2.2 \text{ lbs/million cubic feet}) = 0.0015 \text{ lbs/hr}$$
$$(0.0015 \text{ lbs/hr})(8,760 \text{ hr/yr})(0.0005 \text{ ton/lb}) = 0.007 \text{ ton/yr}$$

Total worst case N₂O emissions from the fuel burning equipment are 0.23 ton/yr. A factor of 310 for Global Warming Potential, as indicated in 40 CFR Part 98, is applied to the worst case N₂O emissions to calculate 71.3 tons CO_{2e}/yr.

Total GHG emissions from the boilers are 16,501.66 short tons CO_{2e}/yr, or 14,970.21 metric tons CO_{2e}/yr.